Arizona Science Standard Performance Level Descriptors
Grade 4

Exceeds the Standard – Students who score in this level illustrate a superior academic performance as evidenced by achievement that is substantially beyond the goal for all students. Students who perform at this level demonstrate a wealth of knowledge, skills, and abilities in fulfillment of the science standard. They can plan simple investigations identifying variables, analyze data to determine trends, formulate conclusions based upon the data, and explain the role of experimentation in scientific inquiry.

Meets the Standard – Students who score in this level demonstrate a solid academic performance on subject matter as reflected by the science standard. Students who perform at this level are able to measure using appropriate tools, identify and compare structures in plants/animals noting their different functions in growth and survival, show that electricity flowing in circuits can produce light, heat, sound, and magnetic effects, measure changes in weather, and interpret the symbols on a weather map.

Approaches the Standard – Students who score in this level show partial understanding of the knowledge and application of the skills that are fundamental for proficient work. Students who perform at this level show some understanding of the science standard's concepts and procedures by demonstrating safe behavior and appropriate procedures in all science inquiry, classifying animals by their traits, investigating the characteristics of magnets, and identifying elements of the Earth's erosion. Some gaps in knowledge and skills are evident and may require additional instruction and remediation in order to achieve a satisfactory level of understanding.

Falls Far Below the Standard – Students who score in this level may have significant gaps and limited knowledge and skills that are necessary to satisfactorily meet the state's science standard. Students will usually require a considerable amount of additional instruction and remediation in order to achieve a satisfactory level of understanding.

Students at the "Exceeds the Standard" level generally know the skills required at the "Meets" and "Approaches" levels and are able to:	Students at the "Meets the Standard" level generally know the skills required at the "Approaches" level and are able to:	Students at the "Approaches the Standard" level generally know and are able to:
Process • Differentiate inferences from observations • Plan a simple investigation that identifies the variables to be controlled. • Analyze data obtained in a scientific investigation to identify trends. • Formulate conclusions based upon identified trends in data • Explain the role of experimentation in scientific inquiry. • Evaluate the consequences of environmental occurrences that happen either rapidly (e.g., fire, flood, tornado) or over a long period of time • Analyze the effect that limited resources (e.g., natural gas, minerals) may have on an environment. **Content** • Construct series and parallel electric circuits. • Compare rapid and slow processes that change the Earth's surface • Analyze evidence that indicates life and environmental conditions have changed • Differentiate between weather and climate as they relate to the southwestern United States	**Process** • Measure using appropriate tools (e.g., ruler, scale, balance) and units of measure (i.e., metric, U.S. customary). • Describe how natural events and human activities have positive and negative impacts on environments. • Describe how science and technology (e.g., computers, air conditioning, medicine) have improved the lives of many people. • Describe benefits (e.g., easy communications, rapid transportation) and risks (e.g., pollution, destruction of natural resources) related to the use of technology. **Content** • Compare structures in plants (e.g., roots, stems, leaves, flowers) and animals (e.g., muscles, bones, nerves) that serve different functions in growth and survival. • Describe ways various resources (e.g., air, water, plants, animals, soil) are utilized to meet the needs of a population. • Recognize that successful characteristics of populations are inherited traits that are favorable in a particular environment. • Demonstrate that electricity flowing in circuits can produce light, heat, sound, and magnetic effects. • Describe the role that water plays in the following processes that alter the Earth's surface features: • Measure changes in weather • Interpret the symbols on a weather map.	**Process** • Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry. **Content** • Classify animals by identifiable group characteristics. • Describe ways in which resources can be conserved • Investigate the characteristics of magnets • Identify the Earth processes that cause erosion.

These descriptors do not include all the skills and knowledge as contained in the Science Standard.